

ATMOSPHERIC PRESSURE OVER POLAND, EUROPE, AND THE GLOBE.

A companion volume to that containing Gorczyński's study of the distribution of temperature over Poland, Europe, and the entire globe, is provided by the same author's work, along similar lines, on the atmospheric pressure.¹

A discussion of the diurnal variation at stations in Poland, and of the formation of true means, is followed by the consideration of some exceptionally long and homogenous records of pressure at several Polish stations. Formulae for the reduction of pressure to sea-level are discussed and simplified tables constructed. Means and departures from the means, 1851-1900, for 800 stations in Europe, and for stations in other parts of the world, are tabulated. Here the author's enthusiasm carries him away, as has been pointed out in a review by C. E. P. Brooks (*Quar. Jour. Roy. Met. Soc.*, Apr., 1920, 46, 218:) "In the case of Scotland, alone, for example, he has adopted one hundred and fifty stations direct from a work by the late Dr. A. Buchan. These stations, many of which must be based on very short periods, were corrected by Buchan to the forty-year period 1856-1895, and rechecked by Gorczyński, using in some cases different standard stations for comparison, to the period 1851-1900. One can but think that one-tenth the number of stations in Scotland, well chosen and well distributed, would have been more useful for map drawing. The same procedure has been applied to records for other countries. The method of reducing a short series to a long one by differences is admirable in itself, but its repeated application to the same set of figures must be condemned." In addition the means calculated for certain isolated stations must often be regarded as doubtful.

Mean and interdiurnal variability, general atmospheric circulation, correlation as applied to studies of pressure and temperature, etc., are treated. The volume is closed by 54 charts, showing the monthly and annual isobars of Poland, Europe, and the world. These are undoubtedly the best now available for Poland and central Europe, joining onto Angot's for the same period, 1851-1900, in France and adjacent regions.—E. W. W.

¹ Władysław Gorczyński, *O Ciepłocie Powietrza w Polsce i w Europie* (Pression atmosphérique en Pologne et en Europe). Warsaw, 1917.

OCEANOGRAPHIC AND METEOROLOGICAL OBSERVATIONS IN THE ATLANTIC OCEAN, DECEMBER, JANUARY, FEBRUARY, 1870-1914.¹

The first requirement in making studies of the variations of ocean currents, water temperatures, air temperatures, pressures and winds, is a reliable set of normal values as a basis of comparison. The Royal Netherlands Meteorological Institute which has always been a leader in the publication of marine data has now provided an excellent series of charts which may be used as a firm foundation for much needed studies of ocean temperature departures and their relations to air temperature, pressure, and wind departures from the normal.²

The preface by Director E. van Everdingen is as follows:³

"Although observations made during the last 70 years on board Dutch vessels in the North and South Atlantic have been often utilized for publications on oceanography

and marine meteorology, they have not been treated in accordance with the requirements of modern science and navigation.

"Only the work dealing with observations made in the region of the Guinea current (Pub. No. 95, 1904) can be considered as being profound from both the theoretical and the practical point of view.

"Yet this publication gives only for a small part of the ocean a summary of the movements of the atmosphere and of the ocean, the mean values of the atmospheric pressure, and of the temperatures of the air and the water.

"Other existing works date for the most part from the days of sailing ships and retain only a very special value.

"In addition, the number of observations at our disposal has enormously increased, and there can be computed much more exactly the mean values of the atmospheric pressure, the temperatures of the air and the water, and the direction and force of the wind and the currents for all regions of the ocean between 50 degrees north and 50 degrees south latitude, with much profit to science as well as to navigation.

"With the completion of the great work on the oceanography and marine meteorology of the Indian Ocean (Pub. No. 104), there has been undertaken a similar work for the Atlantic, of which the first part herewith appears.

"For the most part, the observations made on board Dutch vessels during the years 1870 to 1914 have served as the basis of the work; in addition, thanks to the greatly appreciated collaboration of the "Deutsche Seewarte" at Hamburg and of the "Meteorological Office" at London, it was possible to utilize observations of the wind and the currents in regions where Dutch observations are scarce.

"Abnormal conditions made it impossible to publish simultaneously the atlas and also the tables which contain all the numerical data. These tables are in press and will appear in 1919. * * *

The following table [abridged] indicates the number of observations of each element:

	December.	January.	February.
Currents.....	22,021	20,762	18,657
Wind.....	116,082	105,652	95,965
Atmospheric pressure.....	105,867	95,043	87,097
Temperature of the air.....	108,164	97,560	89,392
Temperature of water.....	106,417	95,564	86,595
Cloudiness.....	113,955	102,576	94,794

Of the total number of observations of currents, 7,020 and 3,441, or 11.4 per cent and 5.6 per cent, were respectively, furnished by the Germans and the English; in addition, 7,020 observations of the wind, or 2.2 per cent of the total, were furnished by the Deutsche Seewarte.

Valuable navigational information has been added on the reverse of the charts by the assistant director, M. P. H. Gallé, who, in collaboration with the director, Dr. J. P. van der Stok, has directed the work.

There are eight charts for each month, as follows:

1. Currents, by 5-degree squares the frequency and mean velocity of surface water movement in each of 16 directions.

2. Winds, same as for currents, except that only eight directions are covered.

3. Currents, general circulation of the surface water, by 2-degree squares the resultant frequency and mean velocity to the nearest one of the 32 points of the compass.

4. General circulation of the air, same as for the currents.

¹ Oceanographische en meteorologische waarnemingen in den Atlantischen Ocean December, Januari, Februari 1870-1914. Kaarten. Koninklijk Nederlandsch Meteorologisch Instituut No. 110. 24 plates. 444 x 51 cm.

² Cf. MONTHLY WEATHER REVIEW, Nov., 1918, 46: 510-512.

³ Translated from the French by E. W. Woolard.